

REMARKS

Applicants respectfully request entry of amendments to claims 1-4, 7, 8, 10, 13, 16, 18, 19, and 22, and cancellation of claim 9. Support for the amendments can be found throughout the specification, including paragraphs [0022], [0025], [0027], [0033], [0035], [0040] and [0080]-[0084], FIG. 1, and the originally filed claims and, therefore, do not add new matter. Applicants submit that pending claims 1-8 and 10-22 are in condition for allowance and respectfully request that the claims be entered.

Objections

Applicants have provided herewith an amended Title as suggested by the Office Action herewith.

For these reasons, Applicants respectfully request that the objection to the specification be withdrawn.

Rejections Under 35 U.S.C. §102

Claims 1 and 4-6 stand rejected under 35 U.S.C. §102(b), as allegedly being anticipated by Allen.

Applicants traverse the rejection as it might apply to the amended claims, including claims dependent therefrom, for the reasons given below.

The Office Action alleges, in pertinent part, that the cited reference teaches the elements as recited in the present claims. However, the cited art does not teach a cantilever comprising one or more attached nucleic acid templates.

The present claims expressly recite "wherein each structure comprises one or more attached nucleic acid templates".

As stated in Hybritech Inc. v. Monoclonal Antibody, Inc., 231 U.S.P.Q. 81 (Fed. Cir. 1986), "It is axiomatic that for prior art to anticipate under 102 it has to meet every element of the claimed invention."

Therefore, because the instant claims recite a cantilever comprising one or more attached nucleic acid templates, the Allen reference does not anticipate the claimed invention.

Failure of the prior art to meet every element of the claimed invention does not meet the standard under 102. For these reasons, Applicants respectfully request that the rejection be withdrawn.

Claims 1 and 4-6 stand rejected under 35 U.S.C. §102(b), as allegedly being anticipated by Lindsay et al.

Applicants traverse the rejection as it might apply to the amended claims, including claims dependent therefrom, for the reasons given below.

The Office Action alleges, in pertinent part, that the cited reference teaches the elements as recited in the present claims. However, the cited art does not teach a cantilever comprising one or more attached nucleic acid templates.

The present claims expressly recite "wherein each structure comprises one or more attached nucleic acid templates".

As stated in Hybritech Inc. v. Monoclonal Antibody, Inc., 231 U.S.P.Q. 81 (Fed. Cir. 1986), "It is axiomatic that for prior art to anticipate under 102 it has to meet every element of the claimed invention."

Therefore, because the instant claims recite a cantilever comprising one or more attached nucleic acid templates, the Lindsay et al. reference does not anticipate the claimed invention.

Failure of the prior art to meet every element of the claimed invention does not meet the standard under 102. For these reasons, Applicants respectfully request that the rejection be withdrawn.

Rejections Under 35 U.S.C. §103

Claims 2-3 and 7-22 stand rejected under 35 U.S.C. §103(a), as allegedly being unpatentable over Allen in view of Colbert et al. As claim 9 has been canceled, the rejection as applied to this claim is rendered moot.

Applicants traverse the rejection as it might apply to the amended claims, including claims dependent therefrom, for the reasons given below.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First there must be some suggestion or motivation in the references themselves or in knowledge generally available to one of skill in the art, to modify the reference or combine the reference

teachings. Second, there must be a reasonable expectation of success. And, finally the prior art reference (or references when combined) must teach all claim limitations. The teaching or suggestion and reasonable expectation of success must both be found in the prior art and not in Applicants' disclosure. (See M.P.E.P. §706.02(j)).

Applicants submit that because the cited references do not teach all the claim limitations, one of skill in the art would not be motivated to combine the reference teachings.

The Office Action alleges, in pertinent part, that Allen is silent with respect to nucleic acids attached to cantilevers, cantilever arrays, or coating cantilevers with alloys. The Action then provides Colbert et al. to cure the deficiency identified in the primary reference. However, review of Colbert et al. demonstrates that the reference does not teach covalent attachment of DNA to a cantilever, an element presently recited in the claims. The Office Action states that Colbert et al. teach modifying cantilevers by attaching nucleic acids to a cantilever at page 24, lines 4-7, which reads as follows:

“The nanotube probes of the present invention can also be employed to deliver genetic material (i.e., DNA) attached to the probe tip by similar injection techniques (e.g., during embryonic development).”

Further, at page 21, line 20 to page 22, line 17, the teaching is only limited to AFM imaging of DNA molecules with a probe or manipulation of objects by direct (i.e., to push, pull or drag atoms, molecules, or small objects to a specified location) and/or indirect interaction (i.e., repulsion or attraction) with a nanotube probe. In each instance, such recitations clearly intimate that a DNA template is not covalently attached to a cantilever.

Applicants submit that, in fact, the cited reference “teaches away” from the present invention. At best, one of skill in the art would extract from Colbert et al. that attached genetic material is useful only for delivery of such material to cells (page 24, lines 4-7), not as a component of an apparatus where the cantilever responds to a mass dependent property change, deflection, or resonant frequency shift of the cantilever structure produced by changes in mass of the attached templates, as expressly recited in the claims. As such, the reference does not teach the purpose of the cantilever-attached template, and thus, the purpose of Applicants' invention could not be accomplished using the teachings of the cited reference. Therefore, the reference teaches away, because the impression left to the skilled artisan is that the product would not have

the property sought by Applicants. In re Caldwell, 319 F.2d 254, 256, 138 U.S.P.Q. 243, 245 (CCPA 1963).

Further, because of this fact, whether Colbert et al. teach or do not teach cantilever arrays or coating of cantilevers with alloys is immaterial.

Again, the teaching or suggestion and reasonable expectation of success must both be found in the prior art. One cannot simply use the Applicants' disclosure as a "blueprint" to reconstruct, by hindsight, Applicants' claim. See, e.g., Interconnect Planning Corp. v. Feil, 774 F.2d 1132, 227 U.S.P.Q. 543 (Fed. Cir. 1985). Because there is neither the suggestion nor expectation of success that can be found in the cited art, no *prima facie* case of obviousness has been established.

Because the teachings of Colbert et al. would not result in a template covalently attached to a cantilever when combined with the teachings of Allen, one of skill in the art would not have an expectation of success since the invention as claimed would not be achieved in view of such teachings. Therefore, one of skill in the art would not be motivated to combine such teachings.

Applicants submit that because there is no reasonable expectation of successfully achieving the invention as claimed, there is no motivation to combine the cited references, thus, no *prima facie* case for obviousness exists. For these reasons, Applicants respectfully request that the rejection, including as it might be applied against the amended claims, be withdrawn.

Rejection Under 35 U.S.C. §101, Double Patenting

Claims 1-22 stand provisionally rejected under 35 U.S.C. §101 as claiming the same invention as that of claim 24-46 of co-pending Application No. 10/705,389. As claim 9 has been canceled, the rejection as applied to this claim is rendered moot.

While not acquiescing to the reasoning offered in the Office Action, and to expedite prosecution toward allowance, the claims have been amended such that the conflicting claims should no longer be interpreted to be co-extensive in scope.

For this reason, Applicants respectfully request that the rejection against the claims be withdrawn.

Rejection Under the Judicially Created Doctrine of Obviousness-Type Double Patenting

Claims 1-22 stand provisionally rejected under the judicially created doctrine of obviousness double patenting allegedly over claims 15-17, 19-20, 29-30, 34-37, 42-52 of co-pending U.S. Application Ser. No. 10/254,201 in view of Lindsay et al. As claim 9 has been canceled, the rejection as applied to this claim is rendered moot.

While not acquiescing to the reasoning offered in the Office Action, and to expedite prosecution toward allowance, Applicants have amended the claims such they should not be interpreted to be anticipated or obvious over the reference claims.

Applicants submit that the claims of the '201 application are directed an apparatus comprising a transparent dielectric sphere which counter balances forces on a cantilever. There is no such component recited in the present claims. Further, Lindsay et al. do not teach a transparent dielectric sphere which counter balances forces on a cantilever, thus, this deficiency is not cured by the secondary reference.

For these reasons, Applicants respectfully request that the rejection against the claims be withdrawn.

In re Application of:
Sundararajan et al.
Application No.: 10/686,083
Filed: October 15, 2003
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PATENT
Atty Docket No.: INTEL1480-1(P13833D)

Conclusion

Applicants submit that pending claims 1-8 and 10-22 are in condition for allowance. The Examiner is invited to contact Applicants' undersigned representative if there are any questions relating to this submission.

No fee is deemed necessary with the filing of this paper. However, the Commissioner is hereby authorized to charge any fees required by this submission, or credit any overpayments, to Deposit Account No. 07-1896 referencing the above-identified docket number. A duplicate copy the Transmittal Sheet is enclosed.

Respectfully submitted,

LS 45,869


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